

Leaf Attachment

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|-------------------------------------------------------------------------------|-------------------------------------------------------------|
| 1. { <i>Dianthus plumarius</i> L.
<i>Frankenia grandifolia</i> Ch. & Schl. | 2. { <i>Saponaria officinalis</i> L.
<i>F. laevis</i> L. |
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Calyx Tube

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| 3. { <i>Lychnis Coronaria</i> L.
<i>F. pulverulenta</i> L. | 4. { <i>Mirabilis longiflora</i> L.
<i>F. Jamesii</i> Torr. |
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Petal

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| 5. { <i>Saponaria vaccaria</i> L.
<i>F. grandifolia</i> Ch. & Schl. | 6. { <i>Saponaria officinalis</i> L.
<i>F. chilensis</i> Presl. |
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Placentation

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| 7. { <i>Mesembryanthemum spectabile</i> Haw.
<i>Hypericopsis persica</i> Boiss. | 9. { <i>Lewisia Cotyledon</i> Rob.
<i>Anthobryum triandrum</i> (Remy)
Surgis |
| 8. { <i>Pycnophyllum molle</i> Remy
<i>F. Fischeri</i> Hicken | 10. { <i>Pereskia aculeata</i> Mill.
<i>Frankenia glabrata</i> Phil (?) |

Ovule

Seed

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| 11. { <i>Silene latifolia</i> Poir.
<i>F. pulverulenta</i> L. | 12. { <i>Velezia rigida</i> L.
<i>F. Aucheri</i> Jaub & Spach (?) |
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PROCEEDINGS OF THE CLUB

MEETING OF APRIL 12, 1927

This meeting was called to order at the American Museum of Natural History at 8:25 p. m. The scientific program consisted of an illustrated lecture by Dr. William Crocker entitled: The Boyce Thompson Institute: its organization and equipment for research.

Dr. Crocker spoke of the handicaps, generally existing, to the successful prosecution of research, and showed how the Boyce Thompson Institute has tried to eliminate these as far as possible. The equipment at the Institute, as well as some of the work now in progress, were described and illustrated by stereopticon slides. A more detailed account will be published later.

ARTHUR H. GRAVES,
Secretary.

MEETING OF APRIL 27, 1927

This meeting was held at the Museum Building of the New York Botanical Garden beginning at 3:30 p.m. The minutes

of the meetings of February 23, March 8, March 30 and April 12 were read and approved.

The resignation of Miss Caroline G. Howe of East Orange, New Jersey, was accepted with regret.

The Committee appointed to report on the revised Constitution and By-laws, namely, Dr. H. M. Richards, Dr. Sam F. Trelease and the Secretary, reported its recommendation that the Club adopt said revision *in toto*. The Secretary was instructed to cast a ballot for its adoption.

On account of the absence of Dr. Richards due to illness, the discussion of the amendments proposed by Dr. Barnhart was postponed until the first meeting in October. It was voted by the Club that an expression of the sympathy of the Club and best wishes for a speedy recovery be sent to Dr. Richards.

The following amendment was then proposed by Dr. Britton: "Unless otherwise determined by the Club, the regular meetings shall be held on the second Tuesday and the last Wednesday of each month from October to May inclusive, except the last Wednesdays of November and December, at such hour and place as the Club may direct."

For the scientific part of the program, Dr. Arthur Hollick presented a fossil plant for examination. Dr. Hollick stated that some years ago Dr. Lester F. Ward in the "Synopsis of the Flora of the Laramie Group" published in 1885, described this fossil as *Trapa microphylla*. Many investigators have not been satisfied with this identification. The fossil is small, with a rosette formation, apparently a water plant—perhaps a floating species which became pressed out in the mud. The fossil belongs to the Fort Union Formation in Montana of the Eocene-Tertiary Age, and was sent about a year or so ago by Dr. F. H. Knowlton in the hope that Dr. Hollick would arrive at a more satisfactory identification.

ARTHUR H. GRAVES,
Secretary.

MEETING OF MAY 10, 1927

This meeting was called to order in the main auditorium of the American Museum of Natural History at 8:25 p. m. Since it was devoted to the subject of wild flower conservation, members of the various nature and walking clubs of N. Y. City

had been invited, and the attendance was about 150, the largest of any meeting for several years.

Mr. Torrey spoke of the recent article by Mr. Taylor in "Torreya," "Walking with an Object," listing the various rarer species of the flora of New York and vicinity, more exact information of whose range and distribution is desired. Copies of this article were distributed to the audience.

As part of the formal program arranged for the occasion, Dr. Barnhart made a few remarks on the history of the Club and the recent work of the revision of its Constitution. In introducing the next speaker, Dr. H. M. Denslow, Dr. Barnhart referred to him as being present at the dinner given 60 years ago in honor of Dr. Torrey, at which the Club was founded. Dr. Denslow spoke of collecting seven or eight species of orchids at the northern end of Manhattan Island about 60 years ago. His uncle lived at Inwood and devoted much of his time to a study of plants. *Tipularia discolor* then grew at Inwood, and still grows on Long Island, having been collected last year at Greenport.

Mrs. Britton, in a lecture that followed, entitled "The Rarer Wild Flowers of the Vicinity of New York", illustrated her remarks with 120 slides of wild flowers, paying especial attention to the rarer species and to those that are disappearing and need conserving. Two lanterns were used, slides of the same or allied and rarer species being shown on the screen at the same time.

ARTHUR H. GRAVES,
Secretary.

MEETING OF MAY 25, 1927

This meeting was held at the Museum Building of the New York Botanical Garden. The minutes of the meetings of April 27 and May 10 were read and approved. The following candidates were unanimously elected to membership in the Club:

Miss Leslie Crawford, 540 West 122 Street, N. Y. C.

Dr. R. P. Wodehouse, 10 Stone Street, Yonkers, N. Y.

Mrs. William Mitchell, 54 Hancock Avenue, Yonkers, N. Y.

The Secretary read a letter from Dr. Burton Livingston, Permanent Secretary of the American Association for the Advancement of Science, acquainting the Club of its official affiliation with the American Association at the recent spring meeting of its executive committee.

On the motion of Dr. Howe, the appointment of the club's two representatives in the council of the Association and the method of their appointment in the future was left to a committee formed of the officers of the Club.

The scientific part of the program consisted of an illustrated talk by Dr. L. O. Kunkel, of the Boyce Thompson Institute, entitled "Virus Diseases."

The virus diseases of plants as a group are transmitted by insects. This is not known to be true of the virus diseases of animals. Not only are we ignorant of the cause of these diseases: we do not know what observations and experiments are necessary in order to solve the problem of their etiology.

There seems to be a specific relation between virus diseases and the insects which spread them. Only certain insects are able to transmit certain virus diseases.

Dr. Kunkel described the symptoms of Aster Yellows, the insect transmitting it (*Cicadula sexnotata*), and methods of study, illustrating his remarks by lantern slides.

Slides were shown of the same disease on lettuce, *Ambrosia trifida*, *Asclepias nivea*, Oyster Plant, Dandelion, Butterweed (*Erigeron canadense*), *Sonchus* sp., Paris Daisy, (*Chrysanthemum frutescens*), *Amaranthus auroro*, Gypsophila, French Marigold, *Helichrysum arenarium*, African Marigold, Mignonette, Schizanthus, Dill, Anise, etc.

In all cases the transmission of the disease was carried out by the same insect. It cannot transmit the disease immediately after feeding. An interval of at least 10 days must elapse before it becomes inoculative. This seems to be evidence that the causal agent is a living organism, and not a purely chemical substance. A certain incubation period exists here just as in the case of the malarial parasite which passes an incubation period in the body of the mosquito.

It has been suggested that the virus diseases are due to ultra-microscopic organisms. The virus diseases are very important because they attack so many economic plants and also because they are apparently closely related to certain diseases of animals and human beings; *e. g.*, rabies, foot-and-mouth disease, hog cholera, small pox, typhus fever, etc. It is believed that the discovery of the cause of virus diseases in plants would throw light on the virus diseases of animals.

Löffler and Frosch, in 1898, in studying the foot-and-mouth disease of cattle, found that the virus could be passed through a filter. In the mosaic disease of tobacco, Iwanowski saw amoeba-like bodies which, because of their large size, he concluded could not cause the disease. In 1921, amoeba-like bodies were found associated with the mosaic disease of corn. There is great uncertainty about the nature of these bodies. When fixed and stained they have a structure similar to that of protoplasm, but until they have been shown to contain nuclei, to be capable of vital movement or have been grown in pure culture or demonstrated to be related to some known organism we shall have to reserve judgment as to whether or not they represent a stage in the life cycle of a living organism.

All the evidence indicates that the causal agent is very small. Its discovery and demonstration may have to await the production of a better microscope than we now possess.

ARTHUR H. GRAVES,
Secretary.

TORREY BOTANICAL CLUB FIELD DAY

HESTER M. RUSK

To celebrate the fiftieth anniversary of the joining of the Club by Dr. N. L. Britton and Dr. Arthur Hollick, a Torrey Botanical Club Field Day was held on June 25, 1927, at Bay Terrace and Great Kills, Staten Island. In the morning a party of about fifty members and friends of the Club, led by Dr. Britton and Dr. Hollick, joined in a field trip on which many interesting plants of the region were pointed out.

Addressing the meeting at the ruins of the former residence of Mr. John J. Croke (Mr. Croke died here on April 11th, 1911, in the eighty-eighth year of his age), near Bay Terrace, Dr. Britton called attention to the important services rendered by Mr. Croke to science during his long life. He was a charter member of the Torrey Botanical Club and an intimate friend of Dr. Torrey; he accumulated here large and valuable collections of shells, birds, minerals and plants, and an extensive library; at about the time of Dr. Torrey's death in 1873, he presented to Columbia College, the valuable general herbarium